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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Christoph Rohe

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STAAS & HALSEY LLP

SUITE 700

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EXAMINER

WOZNIAK, JAMES S

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,400

Applicant(s)

ROHE, CHRISTOPH

Examiner

James S. Wozniak

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12/3/2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language (*FR 2771544*). It has been placed in the application file, but the information referred to therein (*FR 2771544*) has not been considered.

Specification

1. The disclosure is objected to because the term “voice recognition” is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art (for example, page 5). While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Drawings

2. Fig. 1 is objected to because the term “voice recognition” is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art. While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Objections

3. **Claims 24-30** are objected to because of the following informalities:

Claims 24-30 are objected to because the term “voice recognition” is misused in claim 24 for what nowadays is called --**speech recognition**-- in the speech signal processing art. While “voice recognition” and “speech recognition” were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term “**voice** recognition” now denotes identification of *who* is doing the speaking (class 704/246), while “**speech** recognition” (or “**word** recognition”) denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 15-30** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the limitations regarding the step to “free the data signals of the individual features” and the acquired “standardized data freed of the individual features” recited in claims 15 and 22 are not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It appears that the “freeing” step and means refers back to the difference formation calculation of Fig. 1 (Element 27). As shown in Fig. 1 and noted on page 6 of the specification, the input to a second transformation stage (element 23b) is a delayed speech signal, while the input to a first transformation stage (element 23a) is a standardized character string that is obtained from the voice recognizer (element 15) (ASCII code characters that are subjected to a codec (element 17), specification, page 5) and also sent over a first communication channel (CH1). It is not explained in the specification and it would be unclear to one of ordinary skill in the art how to free individualization features from a data signal utilizing a difference calculation between speech and text. Thus, Claims 15-30 fail to comply with the enablement requirement. For art related

examination purposes only, the examiner will not attempt to interpret the claim scope “free the data signals of the individual features” and “standardized data freed of the individual features.”

Dependent claims 17-21 and 23-30 do not remedy the lack of enablement issue noted above with respect to claims 16 and 22, and therefore, are also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 16-17 and 22** are rejected under 35 U.S.C. 102(e) as being anticipated by Sera (*U.S. Patent: 6,498,834*).

With respect to **Claims 16 and 22**, Sera discloses:

Separating the individual features from the data signals at the transmitter to acquire individualization data (extracting speech feature parameters from an input speech signal at a transmitter, Col. 2, Lines 43-62; Fig. 1, Element 10);

Transmitting standardized and compressed data signals separately from the individualization data via separate logic channels (encoding and transmitting text and speech data simultaneously on different channels, Col. 2, Line 63- Col. 3, Line 12; Fig. 1);

Receiving and processing the standardized and compressed data signals and the individualization data at the receiver to recover the data signals that have individual features (reproducing speech at a receiver utilizing text and speech data, Fig. 1, Element 202; Col. 3, Lines 13-40).

With respect to **Claim 17**, Bantz discloses:

Separating includes converting at least one voice signal into characters at the transmitter (speech recognition resulting in character data and speech parameters, Col. 2, Lines 38-52; and Fig. 1, Element 102); and

The processing includes performing voice synthesis from the characters at the receiver (speech synthesis performed at a receiver, Col. 3, Lines 20-33; Fig. 1, Element 202).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 18-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Ono (*U.S. Patent: 6,026,360*).

With respect to **Claim 18**, Sera teaches the method and system for transmitting speech features and recognized characters to a receiver, as applied to Claim 16. While Sera does teach a speech feature memory in both a transmitter and receiver (Fig. 1, Elements 103 and 204), Sera

does not specifically suggest that speech features are stored in assignment to recognized characters. Ono, however, teaches a speech data memory containing speech data and a corresponding character representation (Col. 7, Lines 1-24; Fig. 10, Element 15).

Sera and Ono are analogous art because they are from a similar field of endeavor in speech synthesis utilizing speech features and character data. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera with the speech data memory taught by Ono in order to provide a means for storing correctly synthesized speech data and replacing received speech data errors (Ono, Col. 7, Lines 55-63).

With respect to **Claim 19**, Ono further discloses:

Transmitting data records for supplementing the individual feature knowledge base between the transmitter and receiver (storing speech data from a transmitter in a receiver memory, Col. 7, Lines 1-24).

10. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Ono, and further in view of Delprat (*U.S. Patent: 5,511,072*).

With respect to **Claim 20**, Sera in view of Ono teaches the method and system for transmitting user speech features and recognized characters to a receiver, wherein speech features are stored in assignment to recognized characters, as applied to Claim 19. Sera in view of Ono does not specifically suggest that the user data is transmitted during pause or silence periods, however Delprat provides a means for transmitting user data during silence periods (Col. 7, Lines 42-52).

Sera, Ono, and Delprat are analogous art because they are from a similar field of endeavor in speech data transmission. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera in view of Ono with the means for transmitting user data during silence periods as taught by Delprat in order to insert additional data into a communication channel with minimum deterioration in transmission quality (Delprat, Col. 2, Lines 58-61).

11. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Bantz et al (*U.S. Patent: 5,987,405*).

With respect to **Claim 21**, Sera teaches the method and system for transmitting speech features and recognized characters to a receiver, as applied to Claim 16. Kondo does not specifically suggest transmitting speech data derived from a difference calculation that includes transformation into an n-dimensional state space. Bantz, however, teaches a differencing error calculation utilizing a finite state automaton that would inherently require a transformation into an n-dimensional state space (Col. 4, Lines 27-63).

Sera and Bantz are analogous art because they are from a similar field of endeavor in speech data transmission. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera with the differencing calculation taught by Bantz in order to provide a means for improving the likelihood that reproduced speech is identical to an original speech input (Bantz, Col. 6, Lines 18-24).

12. **Claims 23-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Kondo et al (*U.S. Patent: 4,903,301*).

With respect to **Claim 23**, Sera teaches the method and system for transmitting speech features and recognized characters to a receiver, as applied to Claim 22. Sera does not specifically disclose the use of a transmitter comprising a coder/decoder unit, a delay stage, or a difference signal calculator as recited in claim 23, however Kondo recites:

A coder/decoder unit, having an output (coder/decoder that produces a reproduced speech signal (Fig. 17, Elements 81, 82, and 82S; Col. 11, Lines 19-36);

A delay stage connected in parallel with the coder decoder unit and having an output (Fig. 17, Element 80); and

A difference signal acquisition unit connected to the outputs of the coder/decoder unit and the delay stage (Fig. 17, Element 83).

Sera and Kondo are analogous art because they are from a similar field of endeavor in speech data coding. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera with the transmitter comprising a coder/decoder unit, a delay stage, and a difference signal calculator as taught by Kondo in order to improve the quality of decoded speech data by estimating errors at a speech encoder (Kondo, Col. 2, Lines 35-51).

Claim 24 contains subject matter similar to Claim 17, and thus, is rejected for the same reasons.

With respect to **Claim 25**, Sera further discloses a speech feature receiver for decoding encoded data, Col. 3, Lines 13-19), while Kondo teaches the speech decoder as applied to claim 23 for decoding encoded data at a transmitter.

With respect to **Claim 26**, Kondo teaches the delay buffer as applied to Claim 23, which would require an inherent delay time based on a parcor coding/decoding processing time for a proper distance calculation at element 83 of Fig. 17.

13. **Claims 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Kondo et al, and further in view of Ono.

With respect to **Claim 27**, Sera in view of Kondo teaches the method and system for transmitting speech features and recognized characters to a receiver, wherein a transmitter comprises a coder/decoder unit, a delay stage, and a difference signal calculator, as applied to Claim 26. Sera also discloses the transmission of speech and text data on separate communication channels and a voice synthesizer at a receiver, as applied to claims 22 and 23 respectively. While Sera additionally teaches a speech feature memory in both a transmitter and receiver (Fig. 1, Elements 103 and 204), Sera does not specifically suggest that speech features are stored in assignment to recognized characters. Ono, however, teaches a speech data memory containing speech data and a corresponding character representation (Col. 7, Lines 1-24; Fig. 10, Element 15).

Sera, Kondo, and Ono are analogous art because they are from a similar field of endeavor in speech coding systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera in view of Kondo with the speech

data memory taught by Ono in order to provide a means for storing correctly synthesized speech data and replacing received speech data errors (Ono, Col. 7, Lines 55-63).

Claim 28 contains subject matter similar to Claim 19, and thus, is rejected for the same reasons.

14. **Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Kondo et al, further in view of Ono, and yet further in view of Delprat.

With respect to **Claim 29**, Sera in view of Kondo, and further in view of Ono teaches the method and system for transmitting user speech features and recognized characters to a receiver, wherein speech features are stored in assignment to recognized characters, as applied to Claim 28. Sera in view of Kondo, and further in view of Ono does not specifically suggest that the user data is transmitted during pause or silence periods, however Delprat provides a means for transmitting user data during silence periods (Col. 7, Lines 42-52).

Sera, Kondo, Ono, and Delprat are analogous art because they are from a similar field of endeavor in speech data transmission. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera in view of Kondo, and further in view of Ono with the means for transmitting user data during silence periods as taught by Delprat in order to insert additional data into a communication channel with minimum deterioration in transmission quality (Delprat, Col. 2, Lines 58-61).

15. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sera in view of Kondo et al, further in view of Ono, further in view of Delprat, and yet further in view of Bantz et al.

With respect to **Claim 30**, Sera in view of Kondo et al, further in view of Ono, and further in view of Delprat teaches the method and system for transmitting user speech features and recognized characters to a receiver, wherein speech features are stored in assignment to recognized characters and transmitted during pause periods, as applied to Claim 29. Although Kondo further teaches a difference calculation as applied to Claim 23, none of prior art applied to claim 29, specifically discloses that a distance calculation utilizes a transformation into an n-dimensional state space. Bantz, however, teaches a differencing calculation utilizing a finite state automaton that would inherently require a transformation into an n-dimensional state space (Col. 4, Lines 27-63).

Sera, Kondo, Ono, Delprat, and Bantz are analogous art because they are from a similar field of endeavor in speech data transmission. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Sera in view of Kondo, in view of Ono, and further in view of Delprat with the differencing calculation taught by Bantz in order to provide a means for determining if a speech error term is precise (Bantz, Col. 3, Lines 17-23).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Taniguchi et al (*U.S. Patent: 5,224,167*)- teaches a means for calculating a coding error between an original speech signal and a coded and reconstructed speech signal.

Wrede et al (*U.S. Patent: 5,937,040*)- teaches a means for transmitting speech data and speech recognized text using separate communication channels.


Kato et al (*U.S. Patent: 6,263,202*)- teaches a means for transmitting speech recognized text and tone information to a receiver for subsequent speech synthesis.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached at (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
2/15/2006



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